A NEW GENUS NANCYANA AND NINE NEW SPECIES WITH A REVIEW OF THE RELATED GENUS RHOGOSANA (HOMOPTERA: CICADELLIDAE)

PAUL H. FREYTAG

Department of Entomology, University of Kentucky, Lexington, Kentucky 40546-0091.

Abstract.—The new genus Nancyana and nine new species, N. agitata, N. gadouae, N. lubrica, N. fernandezi, N. fasciata from Venezuela; N. bordoni from Argentina; N. curva, N. isoclada, N. abluta from the Guyanas are described. Two species transferred from Rhogosana are also included in this genus, N. aldeia (DeLong) (type species) new combination, and N. duida (DeLong) new combination. The other species added to Rhogosana by DeLong are transferred as follows: Folicana amazona (DeLong) new combination (= marra Freytag) new synonym, and F. fosteri (DeLong) new combination (= robusta Osborn) new synonym, and Gypona (Marganalana) brazilia (DeLong) new combination.

Key Words: Cicadellidae, Gyponinae, leafhoppers, Nancyana, Rhogosana, Folicana, Gypona

On reviewing the species of *Rhogosana* Osborn it was found that all of the species added to this genus (DeLong 1975, 1981) belong to different genera. In this paper a new genus is set up for two of the species and nine new species. This genus is closely related to *Rhogosana* but can be separated from it on external color pattern and male genitalic characters.

The remaining three species are transferred to other genera as follows:

brazilia DeLong 1975 (transferred to Gypona Germar in the subgenus Marganalana Metcalf, New Combination.

amazona DeLong 1981 transferred to Folicana DeLong and Freytag (= marra Freytag 1979), New Combination and New Synonym.

fosteri DeLong 1981 transferred to Folicana (= robusta Osborn 1938), New Combination and New Synonym.

This leaves *Rhogosana* monotypic with just the type species *rugulosa* (Osborn). This species appears quite primitive being very

large and unicolorous, and unique in that the male genitalia are quite different from other genera in this subfamily.

Genus Nancyana, New Genus

Crown short, broadly rounded, three times as wide between eyes at base as median length, with a definite foliaceous margin, disc smooth usually without striae. Head narrower than pronotum. Ocelli prominent, slightly closer to median line than to eyes, slightly nearer posterior than anterior margin of head. Aedeagus with basal processes (paraphyses) and two pair of subapical processes. Pygofer bifurcate at apex. Usually unicolorous, greenish brown or brown on head and pronotum; forewings darker brown with many spots of brown or black, sometimes spots on forewings forming a pattern.

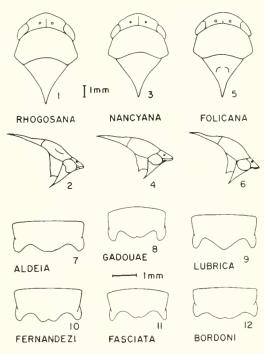
Type species: Rhogosana aldeia DcLong. This genus is closely related to Rhogosana and Folicana, but the color pattern and the male genitalia of the species included in this genus are quite different and warrant the

separation of this genus. A comparison of some of the morphological characters of these three genera are given in Figs. 1–6. Most species of this genus can easily be recognized by being over 12 mm in length, with the head foliaceous, with the head, pronotum and scutellum smooth and evenly colored; and with the forewings darker colored and usually speckled or spotted. This genus is named for my first wife who died in 1984.

KEY TO THE GENUS NANCYANA

(Males of gadouae, lubrica, fernandezi, fasciata, bordoni and curva; and females of abluta, agitata, isoclada and duida are not known.)

1.	Males	2
1'.	Females	6
2.	Aedeagus with both pairs of subapical pro-	
	cesses sharply pointed (Fig. 34)	
	duida (DeLon	g)
2'.	Aedeagus with one pair of subapical pro-	
	cesses sharply pointed, other pair truncate at	
	apex (Fig. 24)	3
3.	Aedeagus with both pairs of subapical pro-	
	cesses equal in length and lying in same plane	
	in lateral view (Fig. 19) isoclada sp.	n.
3'.	Aedeagus with both pairs of subapical pro-	
	cesses not equal in length or not lying in same	
	plane in lateral view (Figs. 14, 29)	4
4.	Aedeagus with outer pointed subapical pro-	
	cesses wider at base and extending ventrally	
	(Figs. 13, 14) agitata sp.	n.
4'.	Aedeagus with outer pointed subapical pro-	
	cesses not greatly wider at base and extending	
	dorsally (Figs. 28, 29)	5
5.	Aedeagus with outer pointed subapical pro-	
	cesses shorter than inner truncate subapical	
	processes (Fig. 29) aldeia (DeLor	ıg)
5'.		
	cesses nearly same length as inner truncate	
	subapical processes (Fig. 24) abluta sp.	n.
6.		
	curva sp.	п.
6'.		7
7	42)	/
7.		13
7,	as in Fig. 12 bordonu sp. Forewing not shiny or polished; seventh ster-	11.
7'.	num with posterior margin usually more	
	deeply emarginate (Figs. 10, 11)	8
8	Seventh sternum with median triangular (Fig.	U
0.	9)	n
	7)	



Figs. 1, 2. *Rhogosana rugulosa* (Osborn). 1. Dorsal view of head, pronotum and scutellum. 2. Lateral view of head, pronotum and scutellum. Figs. 1–6 drawn to same scale.

Figs. 3, 4. *Nancyana aldeia* (DeLong). 3. Dorsal view of head, pronotum and scutellum. 4. Lateral view of head, pronotum and scutellum.

Figs. 5, 6. Folicana zella Freytag. 5. Dorsal view of head, pronotum and scutellum. 6. Lateral view of head, pronotum and scutellum.

Figs. 7–12. Female seventh sternum, ventral view. 7. Nancyana aldeia (DeLong). 8. N. gadouae sp. n. 9. N. lubrica sp. n. 10. N. fernandezi sp. n. 11. N. fasciata sp. n. 12. N. bordoni sp. n. All drawn to the same scale.

8'. Seventh sternum with median rounded and emarginate (Fig. 11) 9
9. Seventh sternum with median obviously emarginate (Fig. 10) fernandezi sp. n.
9'. Seventh sternum only lightly emarginate (Fig. 11) 10. Seventh sternum with median same length as lateral margins (Fig. 7) aldeia (DeLong) 10'. Seventh sternum with median shorter than lateral margins (Fig. 8) 11
11. Seventh sternum with lateral margins rounded gadouae sp. n.
11'. Seventh sternum with lateral margins point-

ed fasciata sp. n.

Nancyana duida (DeLong) New Combination (Figs. 33–37)

Rhogosana duida DeLong, 1975 (type locality—Mt. Duida, Venezuela).

Length of male 15 mm, female unknown. Crown broadly rounded, three times as wide at base between eyes as median length.

Color: Head, pronotum and scutellum uniformly dull yellow brown. Forewings brown mottled with creamy brown spots.

Male genitalia: Pygofer rounded, with triangular lobe at apical margin. Genital plate long, nearly four times as long as wide, truncate at apex. Style with apex blunt, nearly truncate but slightly protruding on dorsal and ventral margins. Aedeagus with broad shaft, two pairs of subapical processes, half length of shaft, sharply pointed at apex; base robust, with a pair of basal processes from base to ventral side of shaft extending to pointed apices two thirds length of shaft.

Type: Holotype male, in the American Museum of Natural History.

Note: The holotype was examined and used for the illustrations. No other specimens of this species have been seen. The paratype male from Brazil was not examined and can not be verified as belonging to this species. This species is similar to *aldeia*, except slightly larger and with distinct male genitalia.

Nancyana aldeia (DeLong) New Combination (Figs. 7, 28–32, 38)

Rhogosana aldeia DeLong, 1975 (type locality—Shudihar R., British Guiana).

Length of male 14 mm, female 17 mm. Crown broadly rounded, three times as wide at base between eyes as median length.

Color: Head, pronotum and scutellum uniformly dull yellow (appears faded from a yellowish green). Forewings dark brown with many speckles of lighter brown and yellow.

Male genitalia: Pygofer rounded with two

truncate apical lobes. Genital plate long, four times as long as wide, with rounded apex. Style with apical arm more than five times as long as wide, apex slightly expanded into a foot-like apex. Aedeagus with robust base, a pair of basal processes from base to ventral side of shaft, extending two thirds length of shaft; shaft tubular, ventral margin concavely depressed, six times as long as wide, expanded slightly at apex with two pair of subapical processes, outer pointed pair curved dorsad and laterad, inner bluntly rounded pair nearly paralleling shaft, gonopore apical.

Female genitalia: Seventh sternum (Fig. 7) more than twice as wide as median length; posterior margin excavated between rounded lateral lobes and median rounded projection, latter with slight median emargination.

Type: Holotype male, in the American Museum of Natural History Collection.

Notes: Other specimens seen are one male, GUYANA, Esseq., 6 mi. S. Wineperu, Picrewana Is., March 8–16, 1969, Duckworth & Dietz, and one female, GUYANA, Esseq., Plantain Is., March 25–26, 1969, Duckworth & Dietz, in the U.S. National Museum Collection. The holotype was used for the illustrations. The paratype male from Brazil was not seen, and can not be verified at this time as being this species.

Nancyana agitata sp. n. (Figs. 3, 4, 13–17)

Length of male 15–15.5 mm, female unknown. Similar to *aldeia* in general size and color pattern, but with distinct male genitalia.

Male genitalia: Pygofer and genital plate (Figs. 16, 17) similar to aldeia. Style (Fig. 15) with apical arm more than 5 times as long as wide; apex expanded, foot-shaped, pointed at toe and heal. Aedeagus (Figs. 13, 14) with robust base; a pair of basal processes from base extending to ventral side of shaft, half way to apex of shaft; shaft tubular, ventral margin concavely de-

pressed, six times as long as wide, expanded slightly at apex with two pairs of subapical processes, outer pointed pair thicker at base, curving ventrad and laterad, inner bluntly rounded pair close to shaft, nearly same width to apex; gonopore apical.

Holotype male: VENEZUELA, Sn. Pedro de Cataniapo, T. F. Amazonas, 100 m, September 23–27, 1981, En la Luz, G. L. Garcia Coll., in the Universidad Central de Venezuela Collection. Paratypes: Two males, VENEZUELA, Bolivar, carret, Caicara, San Juan de Manapiare, KM 150, 300 m, March 21, 1978, Gadou Coll., one in the Universidad Central de Venezuela Collection and one in the University of Kentucky Collection.

Note: This species differs from the other known species of the genus by having the first pair of subapical processes of the aedeagus thicker at the base giving the outer margin a wavy appearance, and the second pair of subapical processes uniformly narrow and slightly longer than the first pair.

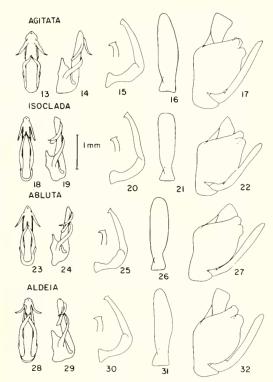
Nancyana isoclada sp. n. (Figs. 18–22, 39)

Length of male 13.5 mm, female unknown. Similar to *aldeia*, but slightly smaller and with distinct male genitalia.

Color: Head, pronotum and scutellum brown. Forewings brown, spotted with creamy brown overall and some darker brown spots in apical cells.

Male genitalia: Pygofer robust with apical margin with two truncate lobes, dorsal lobe longer. Genital plate three times longer than broad, apex broadest and truncate. Style long, with apex slightly expanded. Aedeagus with stout shaft with two pair of equally long subapical processes, outer pair pointed at apex, inner pair truncate at apex; base expanded with basal processes extending to two thirds length of shaft, bending to ventral side of shaft.

Holotype male: GUYANES, Ile de Touenké, 19–21-XI-1975, Itani (Guyanes)



Figs. 13–17. *Nancyana agitata* sp. n. 13. Ventral view of aedeagus. 14. Lateral view of aedeagus. 15. Lateroventral view of style, with lateral view of apex. 16. Ventral view of genital plate. 17. Lateral view of genital capsule. Figs. 13–32 all drawn to the same scale.

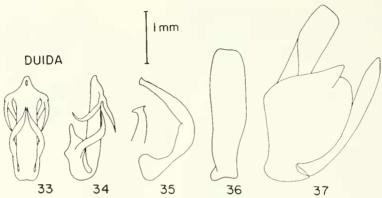
Figs. 18–22. *Nancyana isoclada* sp. n. 18. Ventral view of aedeagus. 19. Lateral view of aedeagus. 20. Lateroventral view of style, with lateral view of apex. 21. Ventral view of genital plate. 22. Lateral view of genital capsule.

Figs. 23–27. *Nancyana abluta* sp. n. 23. Ventral view of aedeagus. 24. Lateral view of aedeagus. 25. Lateroventral view of style, with lateral view of apex. 26. Ventral view of genital plate. 27. Lateral view of genital capsule.

Figs. 28–32. *Nancyana aldeia* (DeLong). 28. Ventral view of aedeagus. 29. Lateral view of aedeagus. 30. Lateroventral view of style, with lateral view of apex. 31. Ventral view of genital plate. 32. Lateral view of genital capsule.

Mission, M. Boulard, P. Jauffret et P. Pompanon Coll., in the Muséum Paris.

Note: This species can be separated from the other known species of the genus by the subapical processes of the aedeagus being equal in length and both curving dorsad.



Figs. 33–37. Nancyana duida (DeLong). 33. Ventral view of aedeagus. 34. Lateral view of aedeagus. 35. Lateroventral view of style, with lateral view of apex. 36. Ventral view of genital plate. 37. Lateral view of genital capsule. All drawn to the same scale.

Nancyana abluta sp. n. (Figs. 23–27)

Length of male 13.2 mm, female unknown. Similar to *isoclada*, but with distinct male genitalia.

Color: Head, pronotum and scutellum brown. Forewings brown spotted with creamy brown.

Male genitalia: Pygofer robust with apical margin with two truncate lobes, dorsal lobe slightly longer. Genital plate three times longer than broad, apex broadly rounded. Style long, with apex slightly expanded. Aedeagus with stout shaft with two pair of subapical processes, outer pair pointed, nearly same length as inner pair, apex curving dorsad, inner pair truncate at apex, paralleling shaft.

Holotype male: GUYANES, Antécumepata (Saut Kialo), 22-XI-1975, Itani (Guyanes) Mission, M. Boulard, P. Jauffret et P. Pompanon, in the Muséum Paris.

Note: This species can be separated from *isoclada* by the rounded apex of the genital plate and the subapical processes of the aedeagus not paralleling each other.

Nancyana gadouae sp. n. (Figs. 8, 40)

Length of female 17.5 mm, male unknown. Similar to aldeia, except larger and

with different shaped female seventh sternum.

Color: Head, pronotum and scutellum uniformly brown. Forewing dark brown speckled with lighter spots and apically with darker spots.

Female genitalia: Seventh sternum narrow, median lobe shorter than lateral lobes, with a slight median emargination.

Holotype female: VENEZUELA, S. [erranía] de Lema, 1200 m, V-1983, Gadou Leg., in the Universidad Central de Venezuela Collection.

Notes: This species is larger and darker in color than *aldeia* and the female seventh sternum is much narrower. This species is named after Mrs. Marilou Gadou, an excellent collector of Auchenorrhyncha.

Nancyana lubrica sp. n. (Fig. 9)

Length of female 19 mm, male unknown. Similar to *aldeia*, but much larger and with a distinct seventh sternum.

Color: Head, pronotum and scutellum greenish brown, spotted with brown. Spots on pronotum appear as punctures. Forewings dark brown, heavily spotted overall with creamy brown, some blackish brown spots at apex.

Female genitalia: Seventh sternum with

median triangular lobe extending length of lateral lobes.

Holotype female: VENEZUELA, T. F. Amazonas, San Carlos de Rio Negro, 10-XII-1984, R. Brown Coll., in the Universidad Central de Venezuela Collection.

Note: This very large species is darker than other known species and the female seventh sternum is triangular instead of rounded.

Nancyana fernandezi sp. n. (Fig. 10)

Length of female 17.5 mm, male unknown. Similar to *aldeia*, except larger and with a different shaped female seventh sternum.

Color: Head, pronotum and scutellum uniformly light brown. Forewings dark brown, heavily spotted with clear or creamy yellow spots.

Female genitalia: Seventh sternum with median lobe extending equal to lateral lobes,

emarginate medially.

Holotype female: VENEZUELA, Bolivar, Km 107, El Dorado, Santa Elena, 520 m, 19-VIII-1957, F. Fernandez Y. & C. J. Rosales Colls., in the Universidad Central de Venezuela Collection.

Note: This species is named after the late Dr. F. Fernandez-Yepes an excellent entomologist and friend.

Nancyana fasciata sp. n. (Figs. 11, 41)

Length of female 15 mm, male unknown. Similar to *aldeia* in size and color, but with a different shaped female seventh sternum.

Color: Head, pronotum and scutellum uniformly light brown. Forewings dark brown spotted and speckled with lighter and darker brown.

Female genitalia: Seventh sternum with a small rounded median lobe, shorter than lateral lobes, slightly emarginate medially.

Holotype female: VENEZUELA, Bolivar, El Bochinche, 200 m, 6–13-XII-1974, J. Salcedo and R. E. Dietz Colls., in the Universidad Central de Venezuela Collection.

Note: This species is very similar to al-

deia, but the seventh sternum of the female is overall smaller with smaller lateral lobes.

Nancyana bordoni sp. n. (Figs. 12, 42)

Length of female 17 mm, male unknown. Similar to *aldeia*, except larger, with darker markings on wings and a different female seventh sternum.

Color: Head, pronotum and scutellum uniformly light brown. Forewings dark brown, spotted with light brown basally, blackish brown apically, mostly shiny, appearing polished.

Female genitalia: Seventh sternum with a rounded median lobe as long as lateral lobes, slightly emarginate medially.

Holotype female: ARGENTINA, Pto. Iquazù, Misiones, 100 m, 25-XI-8-XII-1983, C. Bordon Coll., in the Universidad Central de Venezuela Collection.

Note: This species is named for Dr. Carlos Bordon, a well-known entomologist and the collector of this species.

Nancyana curva sp. n. (Fig. 43)

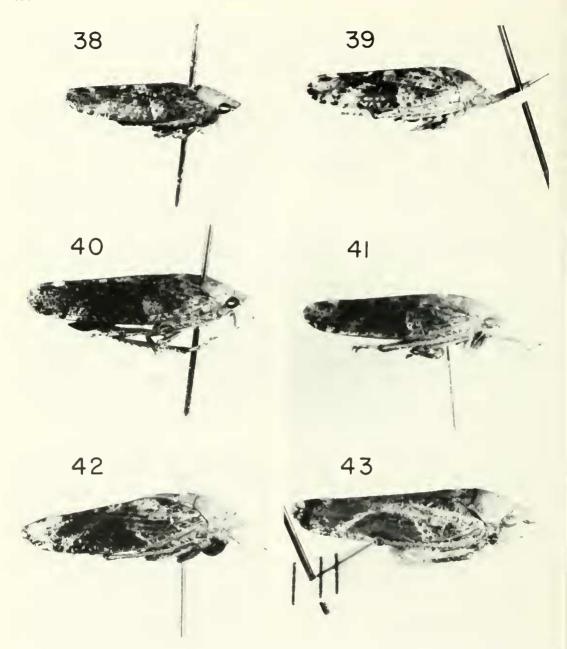
Length of female 16.5 mm, male unknown. Similar to *aldeia*, except larger, with a distinct color pattern and different female seventh sternum.

Color: Head, pronotum and scutellum uniform light brown. Forewings brown spotted with creamy yellow or white, with a large solid brown half circle area near middle along costal margin, and darker blackish brown spots in apical cells.

Female genitalia: Seventh sternum similar to aldeia in shape, except median lobe extending beyond length of lateral lobes.

Holotype female: GUYANE, Riviere-Camopi, Mont Alikene, 11-X1-1969, Piége Lumineux, Guyane Mission, Balachowsky-Gruner, Oct.–Nov. 1969, in the Muséum Paris.

Note: This species is easily separated from the presently known species of this genus by the very distinct brown half-circle on the forewing, whereas in most species the fore-



Figs. 38–43. Nancyana spp., lateral view. 38. N. aldeia (DeLong), male from Guyana. 39. N. isoclada sp. n., holotype. 40. N. gadouae sp. n., holotype. 41. N. fasciata sp. n., holotype. 42. N. bordoni sp. n., holotype. 43. N. curva sp. n., holotype. Length of each given in species description, approximately 2×.

wings are just generally spotted and speckled with only a slight pattern.

ACKNOWLEDGMENTS

I thank the following for the loan of the material used in this study: James P. Kra-

mer, U.S. National Museum of Natural History; M. Boulard, Muséum Paris; F. Fernandez-Yepes, Museo Instituto de Zoología Agricola, Universidad Central de Venezuela; Carlos Bordon, El Lemon, Venezuela and Marilo Gadou, El Lemon, Venezuela. I also

thank R. T. Schuh, American Museum of Natural History for the loan of the type material. This paper is published with the approval of the Director of the Kentucky Agricultural Experiment Station as journal article no. 89-7-202.

LITERATURE CITED

- DeLong, D. M. 1975. The genus *Rhogosana* (Homoptera: Cicadellidae) with descriptions of three new species. Ohio J. Sci. 75(3): 126–129.

- *na*, (Homoptera: Cicadellidae) from Central and South America. Entomol. News 92(1): 17–22.
- DeLong, D. M. and P. H. Freytag. 1971. Studies of the Gyponinae: *Rhogosana* and four new genera, *Clinonella, Tuberana, Flexana* and *Declivara*. J. Kansas Entomol. Soc. 44: 313–324.
- ——. 1972. Studies of the Gyponinae: The genus Folicana and nine new species. J. Kansas Entomol. Soc. 45: 282–295.
- Freytag, P. H. 1979. Additions to the genus *Folicana* (Homoptera–Cicadellidae–Gyponinae). J. Kansas Entomol. Soc. 52: 810–819.